foreword

The Federal Emergency Management Agency (FEMA) has developed this series of mitigation planning "how-to" guides to assist states, communities, and tribes in enhancing their hazard mitigation planning capabilities.

mit-i-gate\ 1: to cause to become less harsh or hostile; **2:** to make less severe or painful

plan-ning\ : the act or process of making or carrying out plans; *specif:* the establishment of goals, policies and procedures for a social or economic unit

These guides are designed to provide the type of information state and local governments need to initiate and maintain a planning process that will result in safer communities. These guides are applicable to states and communities of various sizes and varying ranges of financial and technical resources.

This how-to series is not intended to be the last word on any of the subject matter covered; rather, it is meant to provide clear guidance for the field practitioner. In practice, these guides may be supplemented with more extensive technical resources and the use of experts when necessary.

The series consists of four guides covering the core aspects of the planning process, and additional guides addressing special topics in hazard mitigation. The "core four" guides cover:

- Getting started with the mitigation planning process, including important considerations for how you can organize your efforts to develop an effective mitigation plan (FEMA 386-1);
- Identifying hazards and assessing losses to your community or state (FEMA 386-2);
- Setting mitigation priorities and goals for your community or state and writing the plan (FEMA 386-3); and
- Implementing the mitigation plan, including project funding and maintaining a dynamic plan that changes to meet new developments (FEMA 386-4).

Special topics covered include:

- Evaluating potential mitigation actions through the use of benefit-cost analysis and other techniques (FEMA 386-5);

- Incorporating special considerations into hazard mitigation planning for historic properties and cultural resources (FEMA 386-6);
- Incorporating mitigation considerations for manmade hazards into hazard mitigation planning, the topic of this how-to guide (FEMA 386-7);
- Using multi-jurisdictional approaches to mitigation planning (FEMA 386-8); and
- Finding and securing technical and financial resources for mitigation planning (FEMA 386-9).

Why should you take the time to read these guides?

- It simply costs too much to address the effects of disasters only after they happen;
- State and federal aid is usually insufficient to cover the full extent of physical and economic damages resulting from disasters;
- You can prevent a surprising amount of disaster damage if you understand where and how these phenomena occur;
- You can lessen the impact of both natural and technological hazards and speed the response and recovery process; and
- The most meaningful steps in avoiding the impacts of hazards are taken at the state and local levels by officials and community members who have a personal stake in the outcome and/or the ability to follow through on a sustained program of planning and implementation.

The guides focus on showing how mitigation planning:

- Can help your community become more *sustainable and disaster-resistant* through selecting the most appropriate mitigation actions, based on the knowledge you gain in the hazard identification and risk assessment process;
- Allows you to *focus your efforts on the hazard areas most important to you* by determining and setting priorities for mitigation planning efforts; and

- Can *save you money* by providing a forum for engaging in partnerships that could provide technical, financial, and/or staff resources in your effort to reduce the effects, and hence the costs, of natural and manmade hazards.

These guides provide a range of approaches to preparing a hazard mitigation plan. There is no one right planning process. However, there are several elements that are common to all successful planning endeavors, such as engaging citizens, developing goals and objectives, and monitoring progress. Select the approach that works best in your state or community.

This special-topic guide, *Integrating Manmade Hazards Into Mitigation Planning*, is not designed to help you establish procedures to respond to disasters, write an emergency operations plan, or create a counter-terrorism program for your community; rather, it assumes that your community is engaged in the mitigation planning process and serves as a resource to help you expand the scope of your plan to address terrorism and technological hazards. It provides information to supplement your community's hazard mitigation planning efforts. Because each of the four mitigation planning phases is covered comprehensively in its own how-to guide, references to other publications in the series are often used in lieu of full explanations of a process or activity. Furthermore, the guide is intended not as a highly technical manual but rather as a source of general guidance for the broad audiences that are likely to comprise state and local mitigation planning teams, including participants from government agencies, community interest groups, industrial partners, and others.

introduction

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Disasters are events that can cause loss of life and property, environmental damage, and disruption of governmental, social, and economic activities. They occur when hazards impact human settlements and the built environment. Throughout the Cold War, the focus of emergency management planning was on responding to and recovering from nuclear attack by foreign enemies. During the 1990s, this emphasis shifted to address natural disasters such as hurricanes, earthquakes, tornadoes, and floods.

Yet again, the need to incorporate new threats into emergency management planning—this time, manmade hazards such as terrorism and technological disasters—has become all too apparent, as demonstrated by the September 11, 2001 attacks on New York City and Washington, DC and the July 2001 hazardous material train derailment and fire in Baltimore, Maryland. Additionally, the 2001 anthrax attacks, the 1996 bombing at the summer Olympics in Atlanta, the 1995 destruction of the Murrah Federal Building in Oklahoma City, the 1993 World Trade Center bombing, and scores of smaller-scale incidents and accidents reinforce the need for communities to reduce their vulnerability to future terrorist acts and technological disasters.

Manmade Hazards

For the purpose of this guide, "manmade hazards" are **technological hazards** and **terrorism.** These are distinct from natural hazards primarily in that they originate from human activity. In contrast, while the risks presented by natural hazards may be increased or decreased as a result of human activity, they are not inherently human-induced.

The term **"technological hazards"** refers to the origins of incidents that can arise from human activities such as the manufacture, transportation, storage, and use of hazardous materials. For the sake of simplicity, this guide assumes that technological emergencies are accidental and that their consequences are unintended.

The term **"terrorism"** refers to intentional, criminal, malicious acts. There is no single, universally accepted definition of terrorism, and it can be interpreted in many ways. Officially, terrorism is defined in the *Code of Federal Regulations* as "...the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives." (28 CFR, Section 0.85). The Federal Bureau of Investigation (FBI) further characterizes terrorism as either domestic or international, depending on the origin, base, and objectives of the terrorist organization; however, the origin of the terrorist or person causing the hazard is far less relevant to mitigation planning than the hazard itself and its consequences.

For the purposes of this guide, "terrorism" refers to the use of Weapons of Mass Destruction (WMD), including biological, chemical, nuclear, and radiological weapons; arson, incendiary, explosive, and armed attacks; industrial sabotage and intentional hazardous materials releases; and "cyber-terrorism." Within these general categories, however, there are many variations. Particularly in the area of biological and chemical weapons, there are a wide variety of agents and ways for them to be disseminated.

Although this series of mitigation planning how-to guides—as well as mitigation planning mandates such as the Disaster Mitigation Act of 2000 (DMA 2000)—grew out of a focus on planning for natural hazards, recent events suggest that an all-hazard mitigation plan should also address hazards generated by human activities such as terrorism and hazardous material accidents. While the term "mitigation" refers generally to activities that reduce loss of life and property by eliminating or reducing the effects of disasters, in the terrorism context it is often interpreted to include a wide variety of preparedness and response actions. For the purposes of this how-to guide, the traditional meaning will be assumed; that is, "mitigation" refers to specific actions that can be taken to reduce loss of life and property from manmade hazards by modifying the built environment to reduce the risk and potential consequences of these hazards.

To better structure the way in which we manage disasters, the concept of the "four phases of emergency management" was introduced in the early 1980s after the similarities between natural disaster preparedness and civil defense became clear. This approach can be applied to all disasters.

- *Mitigation* is defined as any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event. Mitigation, also known as prevention (when done before a disaster), encourages long-term reduction of hazard vulnerability. The goal of mitigation is to decrease the need for response as opposed to simply increasing the response capability. Mitigation can save lives and reduce property damage, and should be cost-effective and environmentally sound. This, in turn, can reduce the enormous cost of disasters to property owners and all levels of government. In addition, mitigation can protect critical community facilities, reduce exposure to liability, and minimize community disruption.
- *Preparedness* includes plans and preparations made to save lives and property and to facilitate response operations.
- *Response* includes actions taken to provide emergency assistance, save lives, minimize property damage, and speed recovery immediately following a disaster.
- *Recovery* includes actions taken to return to a normal or improved operating condition following a disaster.

FEMA developed the Integrated Emergency Management System (IEMS) using an all-hazards approach. While the IEMS was established as an "all-hazard" approach, responding to the threat of terrorism (referred to as *counter*terrorism) came to be viewed as the responsibility of law enforcement, defense, and intelligence agencies. Furthermore, defensive efforts to protect people and facilities from terrorism (referred to as *anti*terrorism) were generally limited to the government sector, the military, and some industrial interests. However, both technological disasters and incidents of domestic and international terrorism on United States soil during the past decade have made it clear that emergency managers, first responders, and planners must now work together to build better and safer communities in the 21st century.

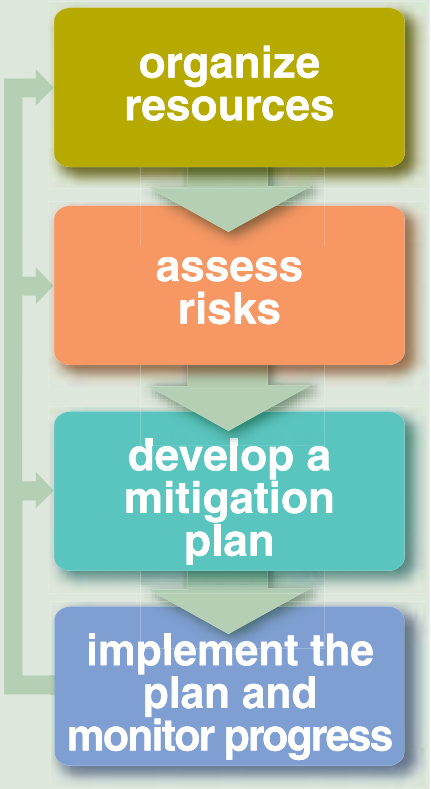
While you may not be able to prevent every accident or deliberate attack, it is well within your ability to reduce the likelihood and/or the potential effects of an incident through mitigation. The process of mitigating hazards before they become disasters is similar for both natural and manmade hazards. Whether you are dealing with natural disasters, threats of terrorism, or hazardous materials accidents, you will use a process of 1) identifying and organizing your resources; 2) conducting a risk or threat assessment and estimating potential losses; 3) identifying mitigation actions that will reduce the effects of the hazards and creating a strategy to place them in priority order; and 4) implementing the actions, evaluating the results, and keeping the plan up-to-date. This four-phase process is known as mitigation planning.

In one form or another, planning is an element of almost everything that individuals, institutions, corporations, and governments do. Planning helps to coordinate actions, determine the order in which goals are accomplished, leverage opportunities, and identify priorities for allocating resources. Hazard mitigation planning is the integration of these activities into a community's emergency management programs in order to reduce or eliminate losses of life and property due to disasters.

The terms counterterrorism and antiterrorism are often used interchangeably. When using these terms, you should be careful to distinguish their meaning. *Counter*terrorism deals with offensively managing the threat of terrorism, while *anti*terrorism refers to defensive efforts to protect people and property.

Hazard Mitigation Planning

The hazard mitigation planning process consists of four basic phases as shown below. The first phase, Organize Resources, addresses the creation of a planning team with representatives from the public and private sectors, citizen groups, higher education institutions, and non-profits. The second phase, Assess Risks, explains identifying hazards and assessing losses. The third and fourth phases, Develop a Mitigation Plan and Implement the Plan and Monitor Progress, discuss establishing goals and priorities and selecting mitigation projects, and writing, implementing, and revisiting the mitigation plan, respectively.



How do you use this and the other how-to guides?

Integrating Manmade Hazards into Mitigation Planning, the seventh guide in the how-to series, provides information that will help you incorporate manmade hazards into the four phases of the mitigation planning process in your community or state, from organizing your resources to updating your plan. This how-to guide follows the four-phase mitigation process. Each section corresponds to one of the phases.

The planning process is as individual as the jurisdiction that engages in it. Each community or state approaches growth and change in a unique way, and the process of planning for the future should fit your particular community's or state's "personality." As a result, you should not consider the step-by-step sequence included in this and other how-to guides to be the only way to pursue mitigation planning. However, the process illustrated here is based on certain steps common to successful planning.

Types of Information Found in the How-to Series

The how-to series contains several types of information. Some information is highlighted with icons. Additional information can be found in Appendix C, Library.

Icons

The **"States"** icon identifies guidance focused solely on the role of the state. Although much of the information will be the same for local, tribal, and state governments, there are different requirements for state and local mitigation plans. Furthermore, states have additional responsibilities to assist local entities in their planning efforts. Guidance focusing on local governments applies to tribes as well.

The **"Caution"** icon alerts you to important information and ways to avoid sticky situations later in the planning process.

The **"DMA"** icon provides information relating to the mitigation planning requirements outlined in the Disaster Mitigation Act of 2000 (DMA 2000) regulations.

The **"Glossary"** icon identifies terms and concepts for which a detailed explanation is provided in Appendix B, Glossary.

The **"Tips"** icon identifies helpful hints and useful information that can be used in the planning process.

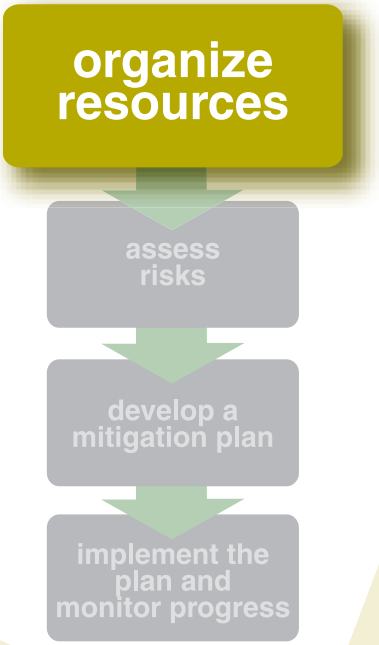
Library

A mitigation planning **"Library"** has been included in Appendix C. The library has a wealth of information, including Web addresses, reference sources, and other information. All of the Web sites and references listed in the how-to guide are included in the library.

Worksheets

Finally, to help track your progress, worksheets have been developed to correspond with the activities in this guide. These are included at the end of each section, where applicable, and in Appendix D, Worksheets. You can duplicate these forms and use them to organize your work as you implement the mitigation planning process.

phase 1


organize resources
assess risks
develop a mitigation plan
implement the plan and monitor progress